

WHAT IS CLAIMED AND DESIRED TO BE SECURED BY LETTERS
PATENT OF THE UNITED STATES IS:

1. A device comprising:

5 a light modulator; and

a lens array configured to focus light on high contrast
portions of the light modulator.

2. The device according to Claim 1, wherein the high
10 contrast portions comprise non-perimeter portions of groups of
pixels of the light modulator.

3. The device according to Claim 1, wherein the high
contrast portions comprise non-perimeter portions of individual
15 pixels of the light modulator.

4. The device according to Claim 1, wherein the light
modulator comprises a reflective microdisplay.

20 5. The device according to Claim 4, wherein the
reflective microdisplay comprises a LCoS microdisplay.

6. A lens array, comprising a series of lenses arrayed in
a rectangular pattern, wherein each lens is configured to

individually correspond to a high contrast area of a light modulator.

7. The lens array according to Claim 6, wherein the light modulator comprises a reflective LCoS microdisplay.

8. The lens array according to Claim 7, wherein each individual high contrast area comprises a high contrast area of a pixel of the LCoS microdisplay.

9. A microdisplay package, comprising:
a reflective microdisplay comprising a set of pixels; and
a lens array comprising a set of lenses;
wherein each lens corresponds to an individual group of the set of pixels.

10. The microdisplay package according to Claim 9, wherein each lens of the lens array is configured to focus light on a high contrast portion of a pixel corresponding to the lens.

11. The microdisplay package according to Claim 9, wherein each lens of the lens array is aligned so that light input to the lens array is individually directed by each lens to a high contrast portion of a pixel corresponding to the lens.

12. A kernel comprising:

a prism assembly comprising a set of processing faces and a set of optical components configured to separate light from the light source into a set of component light beams and individually direct each component light beam to one of the processing faces;

a reflective microdisplay mounted on one of the processing faces; and

a lens array configured to focus beams of light individually on individual high contrast portions of the microdisplay.

13. The device according to Claim 12, wherein the lens array comprises an array of convex lenses.

14. The device according to Claim 12, wherein the lens array comprises a flat plate of glass having a series of peaks, each peak corresponding to one of the high contrast portions of the microdisplay.

15. The device according to Claim 12, wherein at least one high contrast portion comprises a group of pixels of the microdisplay.

16. The device according to Claim 12, wherein at least one high contrast portion comprises a pixel of the microdisplay.

5 17. The device according to Claim 12, wherein each high contrast portion of the microdisplay comprises a high contrast portion of a pixel of the microdisplay.

10 18. The device according to Claim 12, wherein each high contrast portion of the microdisplay comprises a non-perimeter section of a pixel of the microdisplay.

19. The device according to Claim 12, wherein each lens of the lens array comprises a stack of transparent layers.

15 20. The device according to Claim 19, wherein said layers are stair stepped.

20 21. The device according to Claim 20, wherein said layers are glass.

22. A method comprising the steps of:
focusing individual light beams on high contrast portions of a light modulator; and

individually modulating each of the light beams via the high contrast portion of the light modulator upon which they are focused.

5 23. The method according to Claim 22, wherein the light modulator is a reflective Liquid Crystal on Silicon (LCoS) microdisplay.

10 24. The method according to Claim 22, wherein the high contrast portions of the light modulator comprise groups of pixels of the light modulator.

15 25. The method according to Claim 22, wherein each high contrast portion of the light modulator comprises a high contrast portion of a pixel of the light modulator.

20 26. The method according to Claim 22, wherein each high contrast portion of the light modulator comprises a non-perimeter portion of a pixel of the light modulator.

 27. The method according to Claim 22, wherein said step of focusing comprises focusing individual light beams on non-perimeter portions of pixels of the light modulator.

28. A LCoS television, comprising:

a light source;

a projection lens;

a display screen;

5 a prism assembly comprising a set of processing faces and a set of optical components configured to separate light from the light source into a set of component light beams and individually direct each component light beam to one of the processing faces; and

10 a LCoS microdisplay package mounted to each processing face;

wherein:

each microdisplay package comprises a reflective LCoS microdisplay and a lens array configured to individually focus
15 beams of light on high contrast portions of the microdisplay;

the prism assembly is further configured to recombine light reflected from the processing faces and output the recombined light to the projection lens; and

the projection lens is configured to project the recombined
20 light onto the display screen.

29. A projector, comprising:

a light source;

a projection lens;

a prism assembly comprising a set of processing faces and a set of optical components configured to separate light from the light source into a set of component light and individually direct each component light beam to one of the processing faces and recombine light reflected from the processing faces and output the recombined light to the projection lens; and

a modulation package mounted on each processing face;

wherein each modulation package comprises a light modulator and a lens array configured to focus beams of light individually on individual high contrast portions of the light modulator.

30. The projector according to Claim 29, wherein the projector is installed in a television.

31. The projector according to Claim 30, wherein the light modulators comprise reflective LCoS microdisplays.